

PATENT APPLICATION
IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicants: Kunio SEKIYA et al

For: ANTI-STAINING AGENT FOR PAPER MACHINE, AND
METHOD FOR PREVENTING STAINS USING THE SAME

Serial No.: 10/501 303 Group: 1791

Confirmation No.: 6127

Filed: July 1, 2005 Examiner: Halpern

International Application No.: PCT/JP02/07671

International Filing Date: July 29, 2002

Atty. Docket No.: 4414.P0653US

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR 1.132

I, the undersigned, hereby declare as follows:

I am one of the inventors of the invention described and claimed in application Serial No. 10/501 303.

I hereby incorporate by reference herein the contents of the Examples and Experiments contained in application Serial No. 10/501 303.

I have performed additional tests to illustrate the superiority of the modified silicone oils of the present invention over the Toray Silicone, Inc.'s SM8702 silicone oil disclosed in JP 07-292382 to Kuroda.

Tests were performed to examine the difference in peel force (adhesion) between Toray Silicone, Inc.'s SM8702 dimethyl silicone oil and the amino-modified and epoxy-modified silicone oils of the present invention. The oils shown in the following Table were tested, with testing chemicals S1, S2 and S3 being produced by Shin-Etsu Chemical Co., Ltd.

Testing Chemical

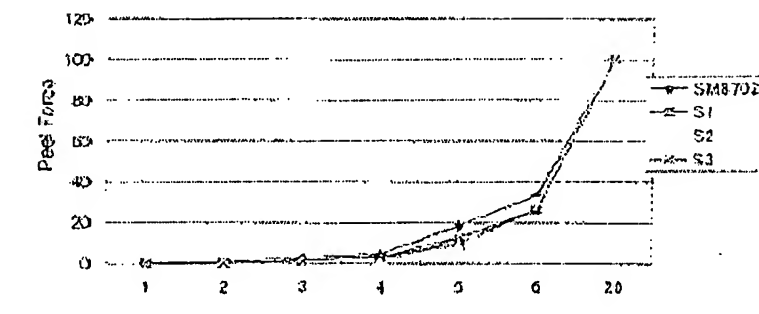
Name of Chemical	Sidechain Group	Viscosity (cps)	*Functional Group Equivalent
SMS702	Dimethyl silicone	350	0
S1	Amino modified silicone	250	4200
S2	Amino modified silicone	1000	8400
S3	Epoxy modified silicone	15000	1800

In the above Table, the Functional Group Equivalent is a value obtained by dividing the molecular weight of a molecule of a silicone compound by the number of modification groups other than a dimethyl group. That is, the larger the functional group equivalent, the smaller the number of modification groups, while the smaller the functional group equivalent, the larger the number of modification groups.

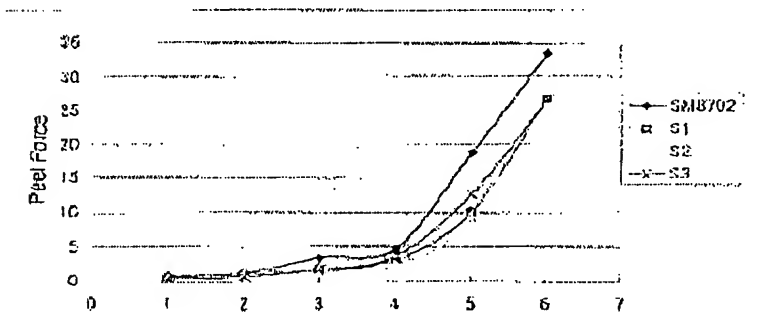
The test was conducted according to the peel experiment 1 of the present application. An emulsion prepared according to peel experiment 1 was uniformly spray-coated three times in a 3 cm X 100 cm area on a surface of an acrylic plate. Over the spray-coated area, a polyester adhesion tape was adhered and pressed by a rubber roller at a pressure of 5 kg/cm². A movable carriage run along a rail was used to determine the peeling force when the adhesive tape was peeled off at a peeling speed of 3 m/s and a peeling angle of 30° and the peeling force exerted was measured by a dynamic friction tester.

Subsequently, the adhesive tape was adhered to the same portion of the acrylic plate without recoating the emulsion, pressed by a roller to be intensively adhered thereto and then peeled off and the peel force again measured by the dynamic friction tester. The foregoing steps were repeated twenty times and the results are shown in Graphs 1 and 2 below.

Graph 1



Graph 2



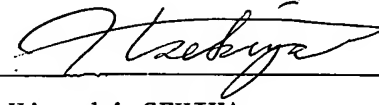
DISCUSSION OF RESULTS

Graph 2 represents an enlarged portion of Graph 1. As shown in the graphs, the amino-modified silicone oils (S1 and S2) and epoxy-modified silicone oil (S3) were lower in peel force (adhesion) than the SM8702 dimethyl silicone oil and were excellent in fixability. Since the modified silicone oils of the present invention had superior fixability, they also had excellent releasability and water-repellent functionality properties.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title

18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: Aug. 18 2008

A handwritten signature in cursive script, appearing to read "H. Sekiya", written over a horizontal line.

Hiroshi SEKIYA